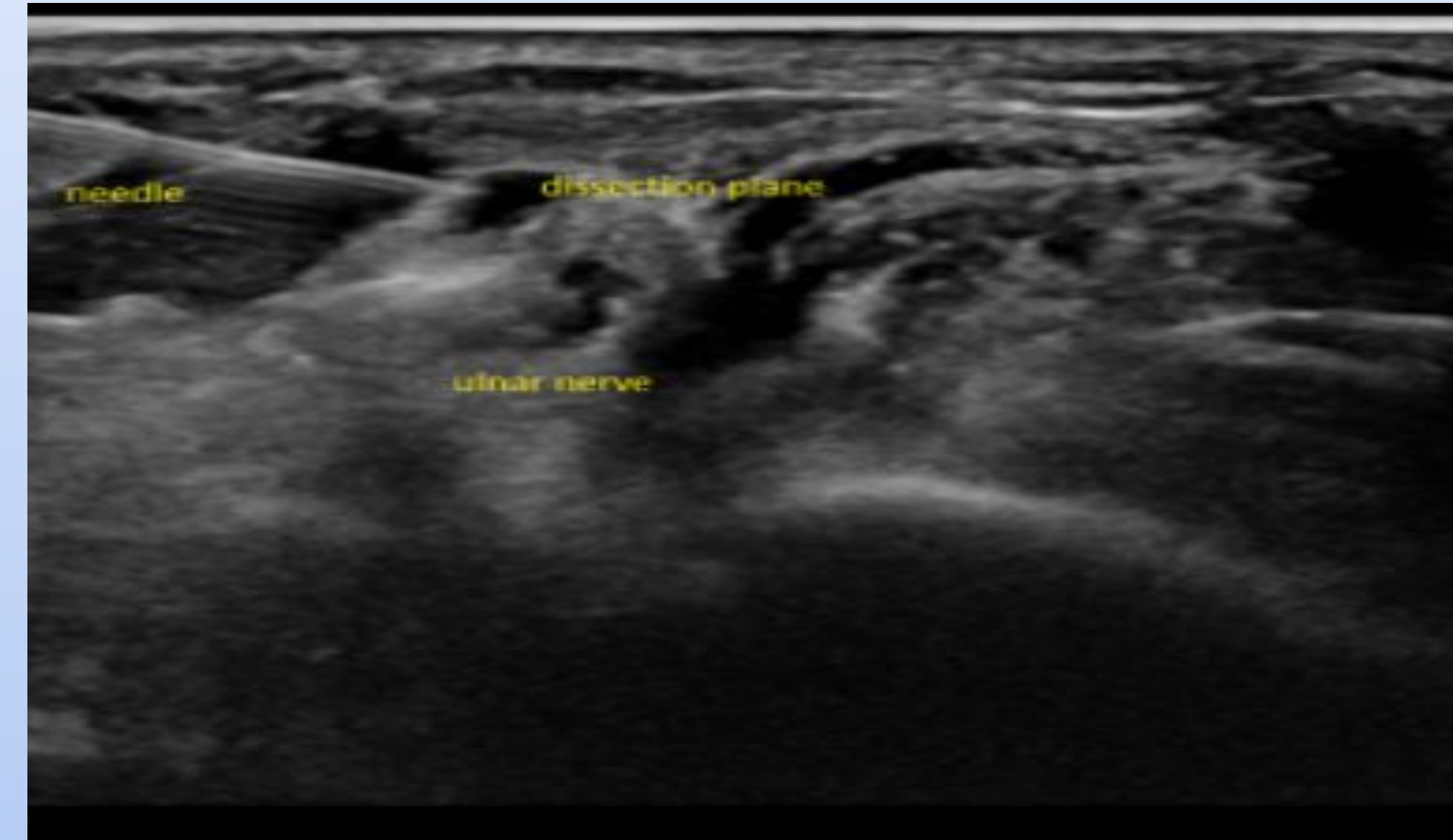


CASE

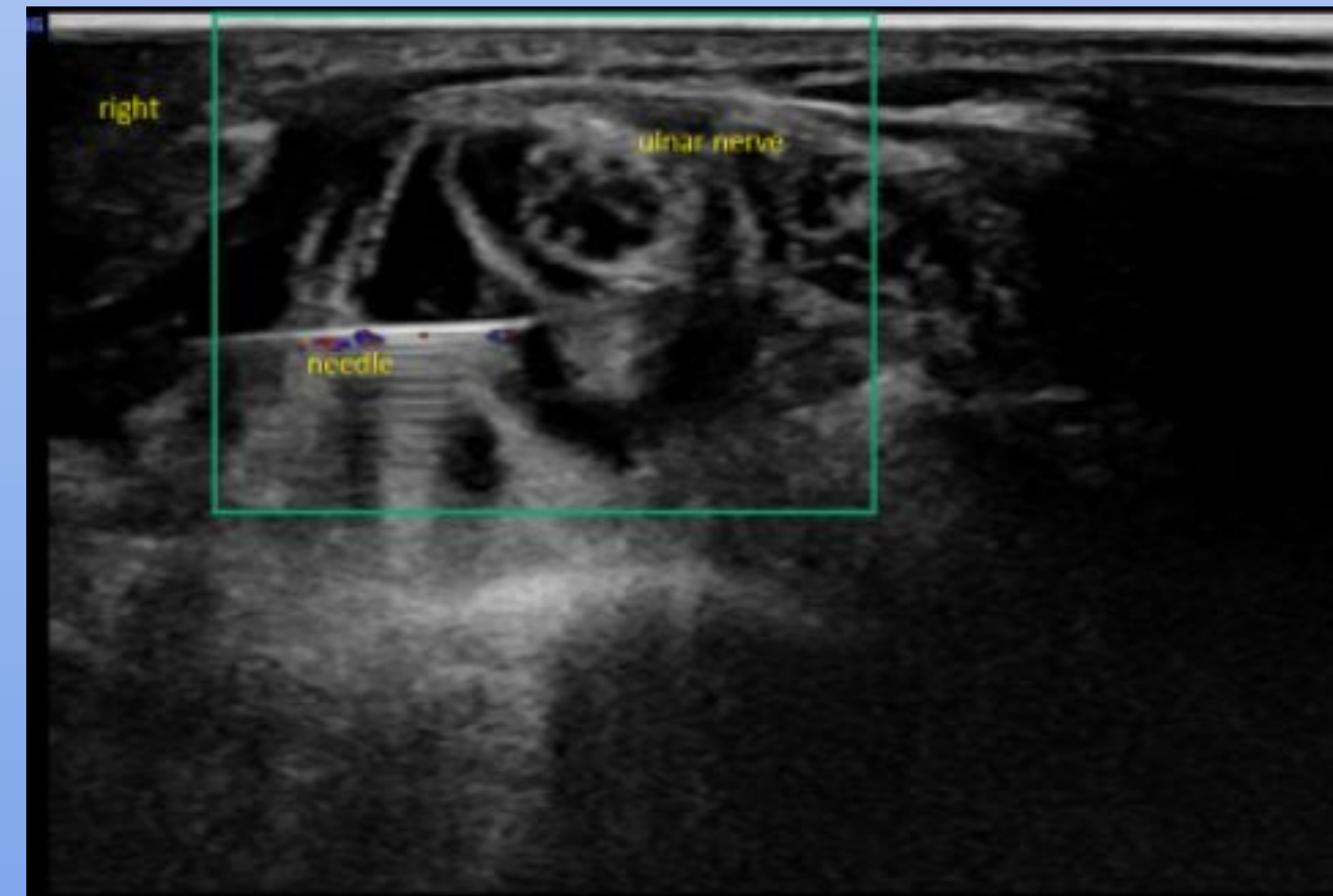
- A 72-year-old female with chronic pain syndrome on opioid therapy presented with severe neuropathic pain of the right upper extremity due to an electrodiagnostically confirmed chronic axonal ulnar neuropathy.
- Symptoms started a year prior following open reduction internal fixation for comminuted fractures of the right ulna and radius sustained in a fall.
- After inadequate response to her opioid regimen, neuropathic agents, and physical therapy, she was referred for ultrasound assessment and intervention.
- Initial physical exam was notable for decreased sensation, allodynia, and motor weakness in an ulnar nerve distribution.
- Additional clinical complaints included sudomotor and vasomotor changes.
- Ultrasound of the ulnar nerve at the elbow identified loss of normal fascicular architecture with nerve enlargement.
- As the patient was reluctant to pursue further surgical intervention, ulnar nerve hydrodissection was performed using a mixture of dexamethasone, lidocaine, and 5% dextrose in water (D5W).

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Ulnar nerve was identified at the elbow and dissection plane was visualized.



Visualization of ulnar nerve after hydrodissection was successfully performed.

ASSESSMENT / RESULTS

- On post procedural evaluation, less allodynia, sudomotor, and vasomotor symptoms were reported.
- Similarly, improvements were noted in range of motion, pain, and activities of daily living during follow-up appointments.

DISCUSSION

- Pain syndromes can cause significant impairment to patients' quality of life and are often difficult to treat.
- Hydrodissections are minimally invasive interventions for treating peripheral nerve entrapment.
- Various injectants have been utilized to separate neural structures from surrounding tissue.
- There has been increasing interest in the use of D5W, which may downregulate transient receptor potential vanilloid receptor-1 found on ligaments, tendons, joints, and peripheral nerves.
- This downregulation in turn inhibits the release of neuropeptides that facilitate neurogenic inflammation and neuropathic pain.
- Recent studies have shown D5W is an effective treatment for mild to moderate carpal tunnel syndrome, recurrent carpal tunnel refractory to surgery, and radial nerve palsy.

CONCLUSION

- This case highlights the importance of careful diagnosis and utilization of multimodal treatment approaches to achieve maximal relief and improve functional outcomes.
- Further studies are needed to determine the efficacy of using D5W independently or in injectant mixtures for hydrodissections and potential benefits for severe chronic neuropathies.

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